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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,449	03/01/2004	Nobuaki Hashimoto	118875	9255
25944	7590	01/12/2006		
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER PHAM, LONG	
			ART UNIT	PAPER NUMBER
			2814	

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

57

<b>Office Action Summary</b>	Application No. 10/788,449	Applicant(s) HASHIMOTO, NOBUAKI	
	Examiner Long Pham	Art Unit 2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 2-4, 6, 11-13, 15 and 19-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 5, 7-10, 14 and 16-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3 IDS</u> . | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

***Election/Restrictions***

Applicant's election without traverse of claims 1, 5, 7-10, 14, and 16-18 in the reply filed on 12/02/05 is acknowledged.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5, 7, 8, 9, 10, 14, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable Nakayama et al. (US patent 6,621,172) in combination with Hirakata et al. (US patent 6,638,781).

With respect to claims 1, 9, 10, and 18, Nakayama et al. teach an electronic device comprising (see figs. 1-6 and associated text):

A substrate 70 on which an interconnect pattern 72 is formed;

A chip component 20 having a first surface on which an electrode 22,42 is formed and a second surface opposite to the first surface, the chip component being mounted in such a manner that the second surface faces the substrate;

A section (side of chip) formed of resin and provided adjacent to the chip component; and

An interconnect 26 which is formed to extend from above the electrode, over the resin section and to above the interconnect pattern.

Nakayama et al. teach the section on the side of the chip comprises of conductive resin and conductive resin 74 between the chip and substrate but fail to teach that the resin is insulating.

Hirakata et al. teach that insulating resin is used because of its superior levelness and low dielectric constant. See col. 15, lines 5-15.

It would have been obvious to one of ordinary skill in the art of making semiconductor devices to incorporate the above teaching of Hirakata into the device of Nakayama et al. to achieve the above benefit.

With respect to claims 5 and 14, Nakayama et al. in combination with Hirakata et al. further teach that the insulating resin section is formed so that part of the insulating resin section does not overlay the first surface.

With respect to claims 7 and 16, Nakayama et al. further teach that a connection layer 74 that connects the chip component with the substrate. See figs 1-2.

With respect to claims 8 and 17, Nakayama et al. further teach that the connection layer is formed of the same material as the insulating resin section. See figs. 1 and 2.

With respect to claim 10, Nakayama et al. further teach the resin section has an inclined surface descending in an outward direction from the chip.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Long Pham whose telephone number is 571-272-1714. The examiner can normally be reached on Mon-Frid, 10am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on 571-272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2814

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Long Pham

Primary Examiner

Art Unit 2814

LP